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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 18

Application Number: 09/319,324
Filing Date: June 03, 1999
Appellant(s): KRANAWETTER ET AL.

Ronald H. Kurdyla (Reg. No. 26,932)
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed March 3, 2004.

A statement identifying the real party in interest is contained in the brief.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences, which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

Appellant's brief includes a statement that claims 1 – 6 stand as one group, and claims 7 – 12 stand as a second group, and claims 13 – 15 stand as a third group.

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

5,675,424	PARK	2-1995
EP 0688135	Yoon et al	

Yoon et al (EP 0 688 135) "Apparatus for parallel decoding of digital video signals", December 20, 1995.

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1 – 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US 5,675,424) in view of Yoon et al (EP 0 688 135). This rejection is set forth in prior Office Action, Paper No. 15 (October 2, 2003), as repeated below.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1 – 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US 5,675,424) in view of Yoon et al (EP 0 688 135).

Regarding claim1, Park '424 discloses "an MPEG compatible digital signal Processing" (i.e. figs. 3a and 3b), and an "input network for receiving a data stream of MPEG coded data" (i.e. figs. 3b and 4, abstract), and a "coupling network responsive to the data stream for deriving therefrom a predetermined sequence of image data" (i.e. figs. 3a -3b, MUX/DEMUX), and "coupling network comprises interleaving means responsive to the data-stream of MPEG ....." (i.e. figs. 3a -3b, for example; Reduced Image Data is an MPEG encoded Data stream, and Multiplexer (interleave) and De-Multiplexer (De-interleave) is considered as an coupling network for interleaving/de-interleaving the data-streams 12a – 12n, in which data-stream 12a is considered as first and second or third or fourth or etc. and also 12b is considered as third and fourth, and further to 12n as 1st and nth and etc), and "selectable for producing either high or low/reduced resolution data image reproduction of the image" (whole purpose of dividing the bit stream to multiple bit streams and processing through multiple encoders

and decoders are to make the signal selectable/suitable for high/low resolution based on the desired application.

Park '424 fails to explicitly teach the newly added limitation "spatially adjacent pixel". However, such features are well known and used as evidenced by Yoon '135 (i.e. figs. 6a – 6b). Therefore, taking the combined teaching of Park '424 and Yoon '135 as a whole, it would have been obvious to modify the signal processing for interleaving spatially adjacent pixel block components for improving video image decoding/decompressing incoming compressed video image. Doing so would provide improvement of video image decoding/decompressing incoming compressed video image (i.e. col. 1, lines 2 – 4).

Regarding claim 2, combination of Park '424 and Yoon '135 teaches "data block components of an MPEG compatible macro-block containing pixel representative" (i.e. col. 3, lines 35+ and lines 56+ of Park).

Regarding claims 3 – 4, 8 – 9 and 14 - 15, combination of Park '424 and Yoon '135 teaches "first data stream (P1) of interleaved first and second spatially adjacent pixel block components from each macro-block of the MPEG coded data and second data stream (P2) of interleaved third and fourth spatially adjacent pixel block components from each macro-block of the MPEG coded data" (i.e. figs. 5a – 6b of Yoon).

Regarding claim 5, the limitations claimed are substantially similar to claim 1, therefore the grounds for rejecting claim 1, also apply here. As for the additional

limitation "decoder for decoding the MPEG .....", see (i.e. fig. 3b, unit 62a-n of park, and abstract of Yoon).

Regarding claim 6, memory for storing image (i.e. fig. 4, memory 85 and 86 of Park, and figs1 and 2 of Yoon), motion compensation (i.e. col. 3, lines 15+ of Park, and fig. 1, 330, 430, 530, and 630 of Yoon).

Regarding claim 7, limitations claimed are substantially similar to claims 1 and 5; therefore the grounds for rejecting claims 1 and 5 also apply here.

Regarding claim 10, as for processing step includes DPCM processing of pixel data.

Note; MPEG is a specific kind of DPCM processing.

Regarding claim 11, limitations claimed are substantially similar to claims 5 and 6; therefore the grounds for rejecting claims 5 and 6 also apply here.

Regarding claim 12, processing step comprises the steps of predicting pixel values and compressing pixel values, would have been obvious over MPEG data processing.

Regarding claim 13, limitations claimed are substantially similar to claims 1 and 7, therefore the grounds for rejecting claims 1 and 7, also apply here.

(11) Response to Argument

In regarding claims 1 - 6, Appellant alleged (Paper No. 17, page 5, lines 16 - 18) that there is no mention whatsoever in Park '424 reference regarding "producing

decoded image information selectable for producing either high resolution or reduced data image reproduction of a complete image". Examiner respectfully disagrees; Park '424 reference is related to an image decoding for an image compression/expansion system of HDTV (which is considered as an high resolution) and/or MPEG standard (which is considered as lower or reduced resolution) for reproducing the complete image, in particular (i.e. fig. 6, col. 5, lines 12 – 24) teaches that the present invention can select/(applied to) MPEG standard having lower/reduce resolution than HDTV. Furthermore, Park '424 (i.e. fig. 4, col. 4, lines 36 – 41) teaches generating/producing "FM" clock frequency signal, which is dependent to the image size (high resolution or low resolution, in other words different dimensions), which means the present processing of reproduction of the complete image is capable of selecting and/or applying to different image dimension/blocks based on the resolution, like HDTV (high resolution) and/or MPEG standard (lower resolution than HDTV), which meets the limitation as claimed.

In regarding claims 7 - 12, similar argument as above; Appellant alleged (Paper No. 17, page 6, lines 4 - 5) that the prior art Park '424 neither discloses nor suggests the claimed data-streams, which are "selectable for either high resolution or reduced resolution". Examiner respectfully disagrees; Park '424 reference is related to an image decoding for an image compression/expansion system of HDTV (which is considered as an high resolution) and/or MPEG standard (which is considered as lower or reduced resolution), in particular (i.e. fig. 6, col. 5, lines 12 – 24) teaches that the present invention can be applied (select) to MPEG standard having lower/reduce resolution than

HDTV. Furthermore, Park '424 (i.e. fig. 4, col. 4, lines 36 – 41) teaches generating clock frequency signal "FM", which is dependent to frame/image size (HDTV/MPEG, high or low frame resolution).

In regarding claims 13 – 15, similar argument as above; Appellant alleged (Paper No. 17, page 6, lines 13 - 15) that the prior art Park '424 neither discloses nor suggests "decoding" to "produce decoded image information selectable for reproducing complete images in either high or reduce resolution". Examiner respectfully disagrees; Park '424 reference is related to an image decoding for an image compression/expansion system of HDTV (which is considered as an high resolution) and/or MPEG standard (which is considered as lower or reduced resolution) for reproducing the complete image. Also Park '424 (fig. 4, col. 4, lines 36 – 40) teaches Producing FM clock frequency signal, which is dependent to image size (high resolution or low resolution), and as mentioned above (fig. 6, col. 5, lines 12 – 24) teaches that the present invention can select MPEG standard having lower/reduce resolution than HDTV with higher resolution.

Appellant alleged (Paper No. 17, page 6, lines 3 – 1 from the bottom of the page) that Yoon '135 fails to mention "first and second data-streams, each with two interleaved spatially adjacent pixel block components".

In response to Appellant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208

USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Examiner agrees with Appellant in regards to Yoon '135 fails to mention "first and second data-streams and interleaving process". However, as for the above claim limitation Examiner relied on Park '424 reference, as stated in previous Office Actions (Paper no. 10 and 15), (i.e. fig. 3) where teaches "de-multiplexer (de-interleave)" 11 and 61, and "multiplexer (interleave) 13 and 63, which are the same as (interleaving unit) as stated in the specification of the Appellant present invention (page 5), that "interleaving unit 24 uses a multiplexing technique". Furthermore, the technical meaning of multiplexing is interleaving multiple data streams to one single data stream. Examiner incorporated the secondary reference Yoon '135 only for the purpose of proving that the newly added limitation "spatially adjacent pixel block components" in the claims, are known and used in the prior art of the record.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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B. S. B. S.

May 14, 2004

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